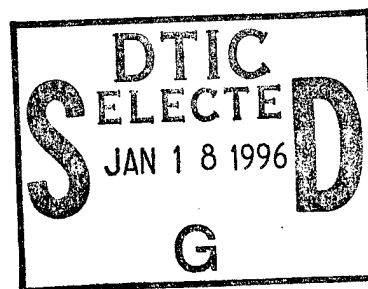


NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

THAILAND AND THE ISSUE OF INCOME DISTRIBUTION

by

Sompodh Sripoom

June, 1995

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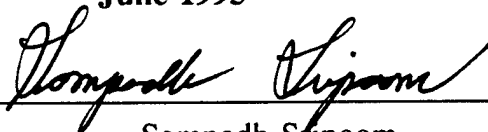
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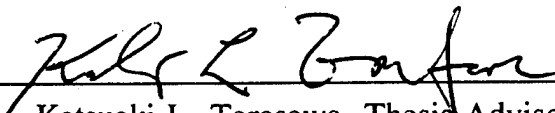
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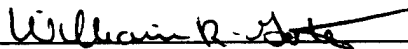


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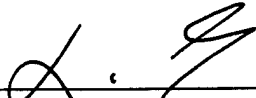
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ABSTRACT

Over the past 35 years, income structures and poverty levels in Thailand have generally followed the same patterns as most developing countries. This study shows a growing income inequality between different groups of the Thai population. However, the country's poverty levels, whether expressed as a percent of the total population or in absolute terms, have reduced significantly. These contrasting results are explained by two main factors: natural resource endowments and the effects of government policies on income distribution. Growth patterns and income structures in each region, especially in the agricultural sector, are primarily determined by natural resource endowments. These regional and sectoral endowments are either strengthened or weakened by government policies. Among these policies, the economic and social development plans have a great impact on income distribution. As the Thai economy has matured, the government is now attempting to both reduce poverty and narrow the income gap.

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I. INTRODUCTION

A. THE ROYAL THAI GOVERNMENT AND INCOME DISTRIBUTION

On 21 October 1992, Prime Minister Chuan Leekpai delivered policy statements to the Parliament before his newly elected government officially began its work. The statement covered several topics, including distribution of wealth and prosperity to regional and provincial areas. The prime minister acknowledged that although his predecessors had accomplished an admirable task in maintaining Thailand's relatively high economic performance, most of the economic activities had been concentrated within the capital city of Bangkok and its vicinities. His new government, therefore, was determined to bring the fruits of economic development to the majority of the Thai citizens.[Ref. 1]

The above policy seems to suggest that the new government has pledged to devote itself to reducing inequality between the urban rich and rural poor. However, one who is familiar with Thai politics will discover that a similar policy has been read to the Parliament time after time by virtually every government. In fact, the country's first economic development guideline, the National Economic and Social Development Plan, covering 1961 to 1966, asserts the importance of equitable distribution: "increased output should be equitably distributed so that, to the extent possible, all citizens, and not merely a privileged few, derive benefit from it." [Ref. 2] The succeeding plans, counting at seven up to this moment, also place income distribution at the top of their priorities.

Whether or not these policies and plans have been effectively implemented is rarely brought up in public. As a result, statistics concerning the country's inequality are quite limited and difficult to verify, especially prior to 1980. Furthermore, the issue of income distribution only

gained public attention after Thailand experienced an economic boom in the second half of the 1980s. There is no clear explanation for the lack of public awareness. However, culture and tradition, religious belief and a "top-down" social structure, which have all been passed on from generation to generation for over seven centuries, certainly play major roles in this phenomena. Since the economic boom began in 1987, the question of who actually benefits from the fast growth has been increasingly raised by the public, particularly the rural poor. Some politicians and academics have constantly expressed their concern over the issue and even fear that the inequality might worsen to the point where social tension is unbearable. "We are going to have a revolution by the people if the widening gap between the rich and poor is not closed," a leading politician once said [Ref. 3].

B. RESEARCH QUESTIONS AND OUTLINES

This study intends to address three research questions:

1. What are common patterns of income distribution that most developing countries share during the course of economic development?

2. Has economic development in Thailand, particularly during the fast growth period of 1987-1990, aggravated the country's income gap between the rich and poor?

3. If the country's income inequality is widening in spite of the government's pledge for more equality in society, then what would cause such an occurrence?

The first research question is addressed in Chapter II. The chapter will present an overview of economic development and income distribution and common patterns of income inequality observed in developing countries. These patterns should serve as a general guideline to indicate whether Thailand is following the same path as relatively more

advanced countries. Kuznets' inverted U-shape hypothesis and the relative-inequality and absolute-poverty approaches used in measuring income distribution are the main focuses of the chapter.

The following two chapters will address the second research question. Chapter III will briefly describe economic development in Thailand during the past three and a half decades. The main point of the chapter is the shift in the structure of production in which manufacturing has replaced agriculture as the major component of the national output. Statistics on income distribution expressed in both relative-inequality and absolute-poverty terms are presented in Chapter IV. The relative-inequality approach shows three comparisons: between the population in the agricultural and industrial sectors, between urban and rural areas and between the country's five regions (including the Bangkok Metropolitan Region). For the absolute-poverty approach, poverty levels are presented by regions.

Factors affecting income distribution in Thailand are discussed in Chapter V. This chapter will focus on the effects of government policies on income distribution. The policies discussed in this chapter include the economic and social development plans, rural development programs, economic decentralization schemes and human resource development schemes. Since regional resource endowment has a relatively large impact on regional growth patterns and income structures, this chapter will also briefly discuss the effects of natural resource endowment on the country's income distribution. Key points found in the study are summarized in the closing chapter, Chapter VI.

II. AN OVERVIEW OF ECONOMIC DEVELOPMENT AND INCOME DISTRIBUTION

A. THE GAP BETWEEN RICH AND POOR

There are generally two gaps separating rich and poor. Looking at the world as a whole, industrialized or developed countries have pulled themselves further ahead of developing countries. In 1950, the average annual per-capita of the industrialized countries was \$3,841 (in 1980 U.S. dollars), while that of the low-income countries was \$164, yielding an income ratio of 23:1 [Ref. 4]. In 1980, the average per-capita gross national product of industrialized countries soared to \$10,200, whereas that of the poorest countries stood at \$300, yielding an increasing ratio of 34:1 [Ref. 5]. By 1992, the ratio had escalated to 56:1 when the average per-capita GNP of industrialized countries sky-rocketed to \$21,960, compared with \$390 earned by the 40 poorest countries [Ref. 6]. The 1994 U.N. Human Development Report also reveals that the ratio between the incomes earned by the top 20 percent of the world population and the bottom 20 percent had grown from 30:1 in 1960 to 61:1 in 1991. Furthermore, the richest 20 percent of the world population in 1991 shared 84.7 percent of total GNP and 84.2 percent of world trade. In contrast, the poorest 20 percent claimed only 1.4 percent of the total GNP and 0.9 percent of world trade.[Ref. 7]

Besides the gap separating rich and poor countries, there is also a growing gap between the rich and poor citizens within many developing countries. Poor people who live in these countries have not only been falling further behind the world's rich, but further behind their relatively more affluent countrymen as well [Ref. 8]. Since there were few statistics on the distribution of income in developing countries when economic development was first studied, the problems of internal inequality and poverty have been

generally ignored. Development specialists assumed that everyone became better off as per-capita GNP rose. Therefore, development specialists overlooked the question of how the benefits of development were distributed. In 1954, Simon Kuznets delivered a seminal presidential address to the American Economic Association, which consequently encouraged economists to reconsider their stances on the internal gap between rich and poor people in developing countries. In his address, he tied income inequality not to economic development as a whole, but rather to each phase of development [Ref. 9].

B. ECONOMIC DEVELOPMENT AND INCOME DISTRIBUTION

Whether looking at economic development as a whole or in stages, income distribution in a particular country is generally related to its economic status. But before discussing the details of Kuznets' address and his famous inverted U-shape hypothesis, it is helpful to distinguish between "economic growth" and "economic development."

Economic growth refers to a rise in national or per-capita income and product, regardless of the means to that rise. A country is experiencing an economic growth if its production of goods and services rises. Economic development, however, does not simply imply a rise in per-capita income or national product. Development also requires fundamental changes in the structure of the country's economy. Among these structural changes, two are most important: the rising share of industry relative to agriculture in national product; and an increasing percentage of people who live in cities rather than the countryside. Furthermore, the major participants in the development process must be the people of the country. [Ref. 10]

In *Leading Issues in Economic Development*, Gerald Meier describes economic development as an "upward movement of the

entire social system." [Ref. 11] It means economic growth plus structural changes, including the improved performance of factors of production, improved techniques of production, and the development of institutions. He then, defines economic development as "the process whereby the *real per capita income* of a country increases over a *long period* of time -subject to the *stipulations* that the number of people below an "absolute poverty line" does not increase, and that the distribution of income does not become more unequal." [Ref. 12] By this definition, income distribution is closely related to economic development and the former actually becomes one of the requirements for the latter.

As mentioned earlier, Kuznets' address to the American Economic Association sparked the study of the internal gap between the rich and poor in developing countries. Based on the fragments of data available at that time, his study indicated widening internal inequality in the early phases of economic development, particularly in old countries where the long-established pre-industrial economic and social institutions would be hard hit by the new industrial system. Narrowing internal inequality should then be expected in the later stages of development. In other words, the relationship between per-capita income and inequality in the distribution of income may follow an inverted U-shape pattern: as per-capita income rises, inequality may initially rise, reach a maximum, remain stable at an intermediate level of income, and then decline as income reaches levels similar to those in industrialized countries. Kuznets further claimed that the income structure in developing countries was somewhat more unequal than in the more advanced countries. [Ref. 13]

Since Kuznets' proposition had limited empirical evidence, it led to more extensive studies and research. Montek Ahluwalia, in *Inequality, Poverty and Development*, used cross-country data from 60 some countries to reexamine the

relationship between the distribution of income and the process of development [Ref. 14]. Although he was careful to indicate limitations and deficiencies of the data, Ahluwalia concluded that there is strong support for the proposition that relative inequality increases in the early stages of economic development and decreases in the later stages. The proposition also holds whether data are limited to only developing countries or expanded to include developed and socialist countries. More important, the cross-section results reveal that the degree of inequality does not depend on the rate of growth. Therefore, a slow growth rate could yield as high an inequality as a fast growth rate, given the stage of development achieved.

Kuznets' inverted U-shape hypothesis also gets strong support from Erich Weede and Hoest Tiefembach. They used cross-national regression and correlation analysis to examine five separate explanations of internal income inequality: the level of economic development, socialism, military participation, democracy, and foreign investment dependency [Ref. 15]. They conclude that the level of economic development is the most convincing among the five explanations. In addition, their conclusions also support Ahluwalia's claim that at similar levels of economic development, fast-growing economies do not appear to generate a less equitable income distribution than slow-growing economies. And since "fast- and slow-growing economies are likely to experience a period of movement toward less egalitarian distributions, the faster growers are likely to reach the equalizing branch of the curve quicker than the slow growers." [Ref. 16]

In another study, Irma Adelman and Cynthia Morris support Kuznets' hypothesis and go beyond it to conclude that the poor lose in absolute terms as well [Ref. 17]. Data indicate that inflation, population growth, technological change,

commercialization of the traditional sector, and urbanization reduce the absolute average income of the poorest 40 to 60 percent of the population in very low-income countries. Adelman and Morris suggest that it would take at least a generation for the poorest 60 percent of the population in an average country going through the earliest stage of economic development to recover their loss in absolute income.

Another fundamental cause of the growing inequality during the early stages of development is the imbalance of growth between the industrial and agricultural sectors. Rapid growth in developing countries is normally associated with higher growth rates in the industrial sector than in the agricultural sector. Moreover, rural-to-urban migration, concentrated industrial development and an education system which encourages bright villagers to train in cities for urban jobs, move resources away from activities that help growth for the rural poor. [Ref. 18]

Several studies reveal strong support for the inverted U-shape hypothesis and these studies hold up well in cross-section data, i.e., when estimates are made for a number of different countries at approximately the same time. However, they are less clearly present in time-series data, i.e., when comparable estimates are made at different times for particular countries. This is due to the limited amount of data available [Ref. 19]. Nevertheless, a number of policymakers and authorities agree that, in general, the distribution of income worsens in the early stages of development and improves as development proceeds [Ref. 20].

C. MEASUREMENT OF INCOME DISTRIBUTION

As previously mentioned, a major problem in the study of income distribution is the deficiencies and limitations of the available data. Different survey designs and executions,

though conducted in the same country, could yield incomparable answers. Thus, in a broader context, the underlying problem is the reliability of data. Montek S. Ahluwalia, in *Income Inequality: some dimensions of the problems*, raises several issues concerning the measurement of income distribution. [Ref. 21] Besides limitations of the data, he points out that the income concept used in many surveys falls short of the comprehensive definition needed. The concept normally counts only money income. Hence, the true status of the rural population, particularly those in the agricultural sector, is somewhat understated. A portion of their earnings comes in non-money forms. In addition, most surveys are conducted over a relatively short period -usually a month or at most a year. Results from two surveys taken during harvesting and non-harvesting seasons in the agricultural sector would fluctuate tremendously.

Even if income is comprehensively defined, surveys may be difficult to conduct in practice. How can one measure non-money income of farmers who help one another plant and harvest paddy fields? Furthermore, large numbers of rural poor in the agricultural sector grow farm produce for their own consumption. Similarly, the urban rich might not reveal their real incomes because of the progressive tax structure. The sample size and its representativeness also raise an accuracy problem in estimating the distribution of income for the population as a whole. These are some practical problems that increase the difficulty of obtaining accurate data. To minimize the discrepancies and inconsistencies associated with methods of measurement, most of Thailand's income distribution data will be drawn from either the National Statistical Office or the National Economic and Social Development Board.

Another important aspect in studying the distribution of income is how to measure inequality. In the relative-inequality approach, the country's rich and poor are matched

against each other. The population of a particular country is grouped according to their incomes, starting from the lowest to the highest. This data is then used to calculate the Lorenz curve and Gini coefficient. [Ref. 22]

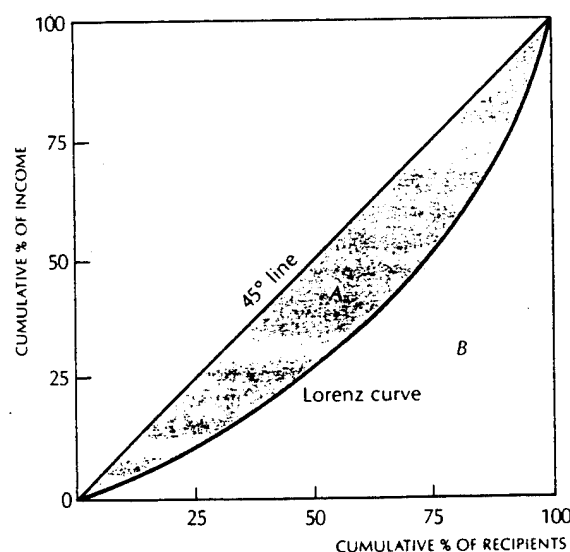


Figure 2-1 Lorenz Curve

Shown in Figure 2-1, the Lorenz curve represents the income share of any cumulative percentage of the population, ordered from the poorest to the richest as you move from left to right. The Gini coefficient is calculated from the Lorenz curve. It is defined as the ratio of the area between the Lorenz curve and the 45-degree line (A) to the total area (A + B). The coefficient varies from zero to one; zero represents perfect equality and one represents complete inequality.

An alternative approach used in measuring income distribution is the absolute-poverty approach. Instead of parring the poor against the rich, this approach directly examines a country's progress in reducing poverty among the poorest. Poverty lines, defined as the minimum annual income

a person needs to meet his or her basic consumption requirements, are set to determine the number of the poor as well as to monitor progress toward poverty reduction. [Ref. 23]

Policymakers may find that the relative-inequality and absolute-poverty approaches yield somewhat different answers. While the relative-inequality approach normally shows a widening gap between the rich and poor during the early stages of development, the absolute-poverty approach might indicate a great reduction in numbers of population living below the poverty lines. Which of the two approaches policymakers should focus on depends on the ultimate goal of development. If the goal is to narrow inequality, then policymakers should give greater weight to the relative-inequality approach. However, if the goal is to alleviate poverty, it seems logical to emphasize the absolute-poverty approach. [Ref. 24]

III. THAILAND'S ECONOMIC PERFORMANCE

Thailand's economy has performed exceptionally well over the past several decades. In fact, Thailand is among the fastest growing and most successful developing countries in the world. Several factors have contributed to the country's fast growth. The dominant among these factors are: abundant natural resources; an enterprising and competitive private sector; and a pragmatic, cautious and, in some periods, conservative economic management.

The country's principal comparative advantage has been the abundance and diversity of its natural resources. Fertile land and ideal growing conditions not only make Thailand an agriculturally self-sufficient country but also the sole net food exporter in Asia and one of the largest food exporters in the world [Ref. 25]. Rice has been the core of the agricultural sector. For well over a century it has been the country's highest valued export. To avoid having the entire agricultural sector relying on a single crop, farmers have been encouraged to grow sugar cane, cassava, maize, and several other cash crops as part of a diversification scheme. However, rice remains the largest foreign exchange earner among agricultural products, bringing in 36,214 million baht in 1992.[Ref. 26]

The enterprising and competitive private sector has led the nation's growth and diversification into a new industrial era. In the early stage of Thailand's industrial development, the largest growing industries included food processing, largely using endogenous primary commodities as its main inputs, and the production of low-technology consumer goods. With the government providing infrastructural support and exerting relatively limited control over the private free enterprise system, the introduction of advanced technology has transformed the country into a fast rising manufacturer of

sophisticated products built to international standards and well accepted in the world market. [Ref. 27]

A. THE 1960S: IMPORT SUBSTITUTION-LED GROWTH

Thailand's economic development had no clear direction until 1959, when it adopted a comprehensive industrialization system based on the private sector. To effectively implement the newly adopted strategy, the Board of Investment (BOI) was created as the principal government agency responsible for providing investment incentives to promote import-substituting industries. The government, in the meantime, redefined its role to providing basic infrastructure for the private sector. It also practiced conservative financial policies by keeping the deficit below two percent of gross domestic product and limiting annual monetary growth to 10-15 percent. [Ref. 28] In addition, the country's first economic development guideline, the National Economic and Social Development Plan was put in effect. It covered the period from 1961 to 1965.

Investment during the 1960s soared as a result of these policies. As shown in Table 3-1, Thailand's average annual growth rate of gross domestic product was 8.4 percent, compared with 5.8 percent for all middle-income, oil-importing countries. By sector, agriculture recorded a mild growth rate of 5.6 percent, while manufacturing and services reached more impressive growth rates of 11.4 percent and 9.1 percent, respectively. Agriculture was the primary driving force behind the fast growth. The availability of uncultivated land created opportunities for rapid growth in agriculture. Since manufacturing was largely limited to food processing and the production of low-technology consumer goods, agriculture also provided inputs for the manufacturing sector and generated demand for manufactured products. Domestic demand, protected by an import substitution policy, increased industrial output

rapidly.[Ref. 29] Although agriculture remained the backbone of the Thai economy, its share in gross domestic product fell sharply from 40 percent in 1960 to 26 percent in 1970, while the share of manufacturing rose from 13 percent to 16 percent during the same period (Table 3-2).

Table 3-1 Average Annual Growth Rate of Gross Domestic Product (real percentage growth).

<u>Year</u>	<u>GDP</u>	<u>Agriculture</u>	<u>Industry</u>	<u>Manufacturing</u>	<u>Services</u>
1960-70	8.4	5.6	11.9	11.4	9.1
1970-80	7.2	4.7	10.0	10.6	7.3
1980-90	7.6	4.1	9.0	8.9	7.8

Source: World Bank, *World Development Report 1982, 1994*.

Table 3-2 Distribution of Gross Domestic Product (percentage)

<u>Year</u>	<u>Agriculture</u>	<u>Industry</u>	<u>Manufacturing*</u>	<u>Services</u>
1960	40	19	13	41
1970	26	25	16	49
1980	25	29	20	46
1985	17	30	20	53
1990	12	39	26	49

Source: World Bank, *World Development Report, various years*.

*Manufacturing is a part of the industrial sector, but its share of GDP is separately shown because it is typically the most dynamic part of the sector.

Toward the end of the 1960s, it became clear that import-substitution policies had put serious restraints on the country's economy. The small domestic market would soon limit the efficiency of import substitution. Furthermore, while manufacturing exports remained small and export diversification was limited to nontraditional products, imports of raw

materials and capital goods by import-substituting industries had grown rapidly. This affected the trade balance and forced the government to review its trading policy.[Ref. 30]

B. THE 1970S: EXPORT-LED GROWTH

From 1969 onward, trading policy shifted from import substitution to export promotion. Throughout the 1970s the Thai economy was hit hard by the oil crisis and global recession. Inflation in the country rose sharply after the oil shocks, and external debt and debt service increased significantly. In the meantime, policymakers made several pragmatic adjustments to curb macroeconomic and structural imbalances and to restore the past rates of economic growth. [Ref. 31]

Thailand was able to maintain relatively high economic growth throughout the decade. Although it could not sustain the 1960s' GDP growth rate of 8.4 percent a year, its 1970s' 7.2 percent GDP growth rate was still higher than the 5.6-percent average for the middle-income, oil-importing countries. As in the 1960s, manufacturing and services increased their contributions to gross domestic product growing at 10.6 percent and 7.3 percent, respectively, while agriculture grew at a lower rate of 4.7 percent. The main driving force contributing to these results, however, was an acceleration in the growth of exports. Exports rose at an average of 14 percent a year in volume. Exports of tapioca, sugar and canned pineapple recorded substantial increases among processed primary products, whereas exports of textiles and clothing, electronics, and jewelry rose remarkably among manufactured goods.[Ref. 32]

Toward the end of the 1970s, various factors indicated a slower growth rate for Thailand's exports, particularly in the agricultural sector. Among these factors, the near exhaustion of uncultivated land began to constrain the expansion of

agricultural exports [Ref. 33]. Thus, the country's dominant influence on the pattern of development over the past century, the abundance of land, began to fade. However, the share of agriculture in GDP (Table 3-2) had been relatively stable throughout the decade, decreasing minimally from 26 to 25 percent. Meanwhile, the share of manufacturing in GDP continued to rise from 16 to 20 percent during the same period.

C. THE 1980S: A BUST-AND-BOOM DECADE

Oil shocks continued to stir the global economy during the first half of the 1980s. Like many other developing countries, Thailand paid a heavy toll for the global recession and downturn in commodity prices. Although the country's annual GDP growth rate remained higher than the average for middle-income countries, macroeconomic and structural imbalances, such as decreasing saving and investment rates, increasing budget deficits and higher debt and debt-servicing obligations, increased economic tensions. Nonetheless, with prompt and pragmatic policy responses, the imbalances were quickly readjusted and the country's economy bounced back even more strongly during the second half of the decade [Ref. 34]. During this period, Thailand emerged with the potential of becoming the fifth Asian tiger and joining the newly industrialized countries (NICs) along with South Korea, Taiwan, Hong Kong, and Singapore.

Thailand experienced an economic boom from 1987 to 1990. During this period, real GDP rose by an average of over 11 percent per year, impressively high in absolute terms and in comparison with other dynamic countries in the region (Table 3-3). A tradition of cautious financial policies in the public sector, combined with both a commitment to an outward-oriented, market based economic system and a development strategy focused on the private sector, led to a surge in

private investment, particularly in the export-oriented manufacturing sector. These three factors were the main contributors to success.

Table 3-3 Real GDP Growth Rate (annual percentage change)

<u>Year</u>	<u>Thailand</u>	<u>Malaysia</u>	<u>Indonesia</u>	<u>Ph.pines</u>	<u>Singapore</u>	<u>S. Korea</u>
1985	3.5	-1.0	2.5	-4.4	-1.6	6.9
1986	4.9	1.2	5.9	3.4	1.8	12.4
1987	9.5	5.4	4.8	4.8	9.4	12.0
1988	13.2	8.9	5.8	6.3	11.1	11.5
1989	12.0	8.8	7.5	6.1	9.2	6.2
1990	10.0	10.0	7.1	2.4	8.4	9.2
1991	8.2	9.0	6.6	-1.0	6.7	8.4
1992	7.5	8.7	6.0	-0.3	5.0	4.7
1993	7.8	-	-	3.1	-	6.0

Source: IMF, *World Economic Outlook* May 1993.

One of the most noticeable achievements during the boom period was the sharp increase in exports, particularly in the manufacturing sector. Total exports of goods and services in 1990 accounted for 745.3 billion baht, representing a full three-fold increase from 245.3 billion baht in 1985. By 1992, the total export value had reached one thousand-billion baht [Ref. 35]. The increasing competitiveness of Thai exports resulted in part from a devaluation of the baht in late 1984. Thailand also eliminated most export taxes and other burdens on exports.[Ref. 36]

As shown in Table 3-4, manufacturing represented only 6.1 percent of total exports in 1970. Its share climbed to 32.3 percent by 1980 and sky-rocketed to 80.0 percent by 1990. The share of agriculture to total exports, on the other hand, had taken a nose-dive from 71.5 percent to 18.0 percent during the same period. As presented in Table 3-2, the weight of manufacturing in GDP had more than doubled that of agriculture

by the end of the 1980s.

Table 3-4 Thailand's Structure of Exports (percentage of total)

<u>Year</u>	<u>Agriculture</u>	<u>Manufacturing</u>	<u>Mining</u>	<u>Others</u>
1970	71.5	6.1	13.9	8.5
1980	51.2	32.3	11.6	4.9
1990	18.0	80.0	-	2.0

Source: Bank of Thailand, *Thai Economy in 1994*.

Thailand's manufacturing output and exports have not only increased in volume, but have become increasingly diversified as well. Traditionally, textiles, food and beverages, and transport equipment played important roles in exports. However, non-traditional exports, including computer parts, consumer electronics, travel goods and toys, accounted for more than half of the export growth during the boom years. This trend, along with a breakneck growth in real estate prices and property development, boosted construction and services, especially in the financial sector. Tourism also expanded rapidly.[Ref. 37]

For over a century, rice had been the largest foreign exchange earner. But as manufacturing output and exports have continued out-growing agricultural products, rice eventually lost its dominance. Although it is still the most important crop in the agricultural sector, Table 3-5 clearly illustrates that rice accounts for only 3.4 percent of total exports. This ranks fifth among top export earners in 1992. The top two export earners, tourism and textiles, each brought in over three times the foreign exchange of rice. Surprisingly, computers and parts, something with which the country was unfamiliar during the 1960s, was a distant third, but still accounted for almost twice the export revenue of rice.

Table 3-5 Top Five Export Earners in 1992

	<u>Mil. Baht</u>	<u>Percentage of Total</u>
Travel Receipts (Tourism)	121,000	11.3
Textile Products	111,837	10.4
Computers and Parts	55,384	5.2
Precious Stone and Jewelry	36,582	3.4
Rice	36,214	3.4

Source: Bank of Thailand, 1994.

After the 1987-1990 period of high growth exceeding 11 percent annually, the Thai economy has grown at a more moderate rate of 7-8 percent a year. Thailand Development Research Institute estimates the country's growth rate in 1995 will be around 9 percent. With this growth rate, agriculture is expected to rise by only 2.1 percent; manufacturing and services are expected to grow at much higher rates of 12.0 percent and 7.9 percent, respectively.[Ref. 38]

There is no doubt that the economic performance has raised the country's quality of life to a new standard. Prior to the introduction of the first economic development plan in 1961, the nominal per-capita annual income was only 2,056 baht (less than \$100). In 1991, at the end of the sixth plan, per-capita annual income rose to 41,000 baht (\$1,640), recording nearly a 20-fold increase from 1961. A target of 71,000 baht (\$2,850) is set for the end of the seventh plan (1992-1996). With per-capita income of 58,903 baht at the end of 1994, the new target seems to be well within reach.[Ref. 39]

Although Thailand has experienced high economic growth and shown a strong potential for becoming one of the Asian NICs, the continuing imbalance of growth among different sectors has created inequalities in Thai society. While growth in recent years has increasingly come from industry and services, which combined account for nearly 90 percent of GDP,

the majority of the population still earn their living from agriculture. This majority shares only 12 percent of the nation's GDP. Policymakers often claim credit for managing the country's economy. At the same time, the question of who actually benefits from the development has increasingly been raised by those who seem to be left behind.

IV. THE IMBALANCE OF GROWTH

Thailand has been experiencing a change in the structure of production in which manufacturing has replaced agriculture as the major component of the national output. This is a common pattern observed in developing countries during economic development. Although the rise of the manufacturing share in GDP relative to agriculture is a common pattern, statistics show that countries following this pattern do not share the same relative rates of change. The question of the proper relationship between agricultural and industrial development remains a puzzle among planners and policymakers around the world.[Ref. 40] Thai authorities have attempted to maintain respectable growth rates in all sectors. However, agriculture seems to be falling behind.

A. AGRICULTURE AND INDUSTRY

Comparing labor force structure and sectoral value-added provides one of the most amazing statistics of the Thai economy. According to labor force surveys, the size of the country's agricultural sector has been declining, but still remains at relatively high levels. In 1960, 84 percent of total labor force was engaged in agricultural work and produced approximately 40 percent of GDP. Two decades later, in 1980, 76 percent of the labor force was still engaged in the agriculture sector, but they produced only 25 percent of GDP. By 1990, the labor force in agriculture had fallen to 60 percent; its value-added in GDP had dropped to 12 percent [Ref. 41]. On the other hand, manufacturing only accounted for 10 percent of the total labor force in 1990, but accounted for 26 percent of GDP. This means that in 1990 manufacturing labor was 13 times more productive than agricultural labor. It also implies that labor productivity in the agricultural sector is relatively low and provides a basis for expecting Thailand to

for expecting Thailand to have great inequality between urban and rural incomes [Ref. 42].

According to income surveys conducted by the Office of Agriculture for Economy (Table 4-1), the average annual per-capita income in the agricultural sector rose from 2,000 baht in 1981 to 2,544 baht in 1990, representing an increase of 27 percent. During the same period, the average annual per-capita income in the non-agricultural sector rose from 15,310 baht to 25,693 baht, representing an increasing of nearly 70 percent. As a result, the income gap between these two sectors widened from 13,310 baht to 23,149 baht. In relative terms, the income ratio increased from 7.7:1 to 10.1:1 in favor of the non-agricultural sector.

Table 4-1 Comparison of Income per Capita in Agricultural and Non-Agricultural Sector (at 1972 constant baht)

	<u>1981</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>
Earning in agricultural sector (million baht)	65,093	78,775	86,629	90,711
-Percentage of total earning	20.4	19.0	16.9	14.0
-Per-capita income	2,000	2,299	2,476	2,544

Earning in non-agricultural sector (million baht)	253,346	334,714	425,838	540,899
-Percentage of total earning	79.6	80.9	83.1	85.6
-Per-capita income	15,310	17,274	21,039	25,693

Ratio: non-agri./agri.	7.7:1	7.5:1	8.5:1	10.1:1
Source: Office of Agriculture for Economy, Thailand.				

[Ref. 43]

It is worth noting that there are some discrepancies in determining the sectoral labor force in Thailand. Because of highly seasonal fluctuations in agricultural work, the

definitions and methods of measuring the labor force tend to overstate the relative size of agricultural employment. The Labor Ministry estimates that about one million people flock to Bangkok and other urban areas annually to look for jobs during the dry season, lasting from November to May [Ref. 44]. Since sectoral measurement of labor force requires these individuals to be assigned to one sector or another, even though they shift between sectors over the time of the year, the share of employment in agriculture appears to be higher than the actual amount. However, the one-million urban migrants are a small share of the nation's total labor force of over 30 million. Shifting all migrant workers to manufacturing still leaves agriculture with a share of the total labor force that exceeds its share of GDP.

B. URBAN AND RURAL AREAS

The extraordinary difference in productivity between agriculture and industry (or manufacturing) is a good indication that there is a strong difference in earned income between urban and rural areas. In fact, socio-economic surveys conducted by the National Statistical Office between 1981 and 1992 confirm this expectation.[Ref. 45]

Between 1981 and 1992, household income increased at an average rate of 8.2 percent a year, boosting the average annual per-capita household income from 9,008 baht to 21,729 baht (Table 4-2). During this period, income in rural areas rose from 6,991 baht to 13,733 baht; this compares with an increase from 17,415 baht to 40,046 baht for those living in urban areas (excluding the Bangkok Metropolitan Region). In relative terms, the income ratio in urban and rural areas widened from 2.5:1 to 2.9:1. However, this income gap actually narrowed between 1986 and 1990. Thus, the economic boom alone did not give a greater comparative gain to the urbanites than to their fellow countrymen living in rural areas.

Table 4-2 Household Income in Bangkok Metropolitan Region, Urban Areas and Rural Areas (at current price)

	<u>1981</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>	<u>1992</u>
Average Annual per Capita					
Household Income (baht)	9,008	10,133	12,318	16,463	21,729
- BMR*	17,063	21,944	27,007	39,000	56,298
- Urban Areas**	17,415	21,013	21,617	27,685	40,046
- Rural Areas	6,991	7,144	8,837	11,152	13,733
Ratio: BMR/Rural	2.4:1	3.1:1	3.1:1	3.5:1	4.1:1
Ratio: Urban/Rural	2.5:1	2.9:1	2.5:1	2.5:1	2.9:1

Source: National Statistical Office.[Ref. 46]

* Bangkok Metropolitan Region includes Bangkok and its three surrounding provinces of Samut Prakarn, Nontha Buri, and Pratum Thani.

** Excluding BMR.

Between 1975 and 1985, the average income in the Bangkok Metropolitan Region (BMR) increased faster than any other region [Ref. 47]. Table 4-2 shows that BMR residents have received the largest share of benefits from the country's economic development. In 1981, an average BMR resident actually earned less than an average urbanite and 2.4 times the income of a rural resident. In 1986, a BMR resident brought home about the same earnings as an urban resident, but 3.1 times the rural resident. Then, BMR residents' incomes began to rise faster than those in urban and rural areas during the boom years and continued to rise afterward. By 1992, a BMR resident earned 1.4 times as much as an urban resident and 4.1 times the residents living in rural areas.

In general, Table 4-2 implies that with Thailand's economic development, people in urban areas, particularly in BMR, are much better off than those in rural areas. Rural residents have been falling further behind the rest of the country. Since the percentage of urban residents in Thailand

is very low, most benefits from development accrue to a small portion of the population. From 1960 to 1980, the share of urbanites to total population has increased minimally from 13 to 14 percent. It was only after 1980 that urbanization began to accelerate, reaching 18 percent by 1985 and 23 percent by 1990. The percentage of the urban population still stood at 23 in 1992, an unusually low figure compared with the 62 percent average for all middle-income countries. In addition, nearly 70 percent of the Thai urbanites live in BMR [Ref. 48]. Thus, most development benefits accrue to a specialized group of people; specifically, to those who live in the Bangkok Metropolitan Region.

Table 4-3 Regional Distribution of Household Income (Current Baht)

	<u>1981</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>	<u>1992</u>
Average Annual per-Capita					
Household Income	9,008	10,133	12,318	16,463	21,729
- BMR	17,063	21,944	27,007	39,080	56,298
- Central	10,288	11,446	12,985	17,481	21,808
Urban Central	(15,758)	(20,369)	(20,483)	(28,891)	(40,285)
Rural Central	(9,519)	(9,837)	(11,400)	(15,433)	(18,409)
- South	8,880	10,499	11,587	14,054	18,682
Urban South	(18,307)	(22,070)	(23,170)	(26,220)	(40,951)
Rural South	(7,421)	(8,403)	(9,176)	(12,195)	(15,300)
- North	8,447	9,557	11,047	14,920	17,043
Urban North	(19,086)	(22,594)	(24,709)	(33,503)	(43,221)
Rural North	(7,346)	(8,363)	(9,915)	(12,736)	(13,982)
- Northeast	5,911	6,257	8,179	9,411	12,628
Urban NE	(15,923)	(20,385)	(18,120)	(23,012)	(36,803)
Rural NE	(5,386)	(5,196)	(7,130)	(8,324)	(11,240)

Source: National Statistical Office.[Ref. 49]

Table 4-4 Regional Distribution of Household Income (in relative terms)

	<u>1981</u>	<u>1986</u>	<u>1988</u>	<u>1990</u>	<u>1992</u>
Average Annual per-Capita					
Household Income	9,008	10,133	12,318	16,463	21,729
Base Ratio	1.00	1.00	1.00	1.00	1.00
- BMR	1.89	2.17	2.19	2.24	2.59
- Central	1.14	1.13	1.05	1.06	1.00
Urban Central	(1.75)	(2.01)	(1.66)	(1.75)	(1.85)
Rural Central	(1.06)	(0.97)	(0.94)	(0.94)	(0.85)
- South	0.99	1.03	0.94	0.83	0.86
Urban South	(2.03)	(2.18)	(1.88)	(1.59)	(1.88)
Rural South	(0.82)	(0.83)	(0.74)	(0.74)	(0.71)
- North	0.94	0.94	0.90	0.91	0.78
Urban North	(2.12)	(2.23)	(2.01)	(2.04)	(1.99)
Rural North	(0.82)	(0.83)	(0.80)	(0.77)	(0.64)
- Northeast	0.66	0.62	0.66	0.58	0.58
Urban NE	(1.77)	(2.01)	(1.47)	(1.40)	(1.69)
Rural NE	(0.60)	(0.51)	(0.58)	(0.51)	(0.52)

Source: adapted from Table 4-3.

The regional distribution of income and production highlights another important aspect of income disparity in Thailand. Tables 4-3 and 4-4 reaffirm that residents of the Bangkok Metropolitan Region have claimed most of the nation's economic prosperity. In 1992, they earned more than two and a half times the second highest average income, found in the central region. In fact, between 1981 and 1992, BMR was the only region that gained relative to the national average household income; the north experienced the worst decline.

In 1992, urban residents in the north earned the highest income among all urban and rural residents, excluding BMR. The average income in the north, however, was lower than the average incomes in the central and south. This resulted

because incomes in the rural north were lower than those in the rural central and rural south. Data from other years also show results similar to 1992. Thus, incomes of the rural residents outweigh incomes of the urbanites and play a significant role in determining average regional incomes.

The tables also point out that the northeast, housing one-third of the country's population, is the poorest region, though it had the smallest decline in relative household income. In 1992, an average Northerner earned approximately one-half of the national average household income and one-fifth of an average Bangkokian.

Table 4-5 Regional Share of Gross Domestic Product and Regional Population

	<u>Share of GDP</u>		<u>Population</u>	<u>per-Capita</u>
	<u>1981</u>	<u>1989</u>	<u>1989</u>	<u>Contribution</u>
Total (percent)	100	100	100	1.00
Bangkok*	42.6	48.0	9.6	5.00
Central**	19.2	18.7	22.7	0.82
South	10.0	9.0	12.8	0.70
North	13.5	11.4	20.2	0.56
Northeast	14.7	12.9	34.7	0.37

Source: NESDB and Bank of Thailand (partly adapted)

* Bangkok only. ** Excluding Bangkok

In 1989, Bangkok alone accounted for 48 percent of the country's gross domestic product (Table 4-5). To claim this share, three-fourths of manufacturing value-added and two-thirds of banking and trade value-added were generated within the capital's boundary [Ref. 50]. As a result, its per-capita contribution to GDP was six times that of the central region, seven times the south, nine times the north and 13 times the northeast. Interestingly, the difference in regional contribution to GDP in Table 4-5 is consistent with the

difference in regional household income in Tables 4-3 and 4-4. Bangkok or BMR is at the top, followed by the central, south, north, and northeast regions.

C. DISTRIBUTION OF INCOME

The agriculture-industry and urban-rural comparisons in the previous sections have shown that people who live in BMR get the largest benefit from development; rural residents in the northeast receive the smallest benefit. This section will compare the population when grouped according to income level (as in the Lorenz curve).

The distribution of income presented in Table 4-6 reaffirms that the more affluent groups of population have increasingly claimed larger shares of income. Between 1986 and 1992, the share of income for the richest 10 percent of the Thai citizens increased from 21.8 percent to 35.8 percent. The share for the richest 20 percent also increased from 33.6 percent to 51.9 percent. This means that more than one-half of total household income accrued to the top 20 percent of the population. On the other hand, the shares of income for all poorest groups declined during the same period. In 1992, the poorest 10- and 20-percent groups earned only 2.2 and 5.4 percent of total income, both showing a drop of 0.6 percent from the 1986 levels.

Micheal Lipton, in *Urban Bias and Inequality*, suggests that income in poor countries is usually more equally distributed within the rural sector than the urban sector. [Ref. 51] His statement appears to hold well for Thailand too. From Table 4-6, the poorest groups in the rural areas generally have higher shares of income than those in the urban areas, and vice versa for the richest groups. Of course, a poor urbanite actually earns a lot more than a poor rural resident because the average income in urban areas is roughly three times higher than that in rural areas (Table 4-2).

Table 4-6 Sectoral Distribution of Income (percentage share)

	Lowest	Lowest	Lowest	Lowest	Highest	Highest
<u>Year</u>	<u>10%</u>	<u>20%</u>	<u>40%</u>	<u>60%</u>	<u>20%</u>	<u>10%</u>
<u>Thailand</u>						
1986	2.8	6.0	15.8	29.3	33.6	21.8
1988	3.2	8.1	20.3	35.7	41.3	26.0
1990	2.4	5.9	15.1	28.4	50.5	34.4
1992	2.2	5.4	14.3	27.4	51.9	35.8
<u>BMR</u>						
1986	3.1	7.8	20.6	37.9	40.3	26.7
1988	3.4	8.6	21.3	37.9	40.5	25.7
1990	2.8	7.2	19.5	34.9	45.6	30.5
<u>Urban Areas</u>						
1981	2.9	7.7	21.1	35.8	43.6	29.8
1986	3.8	6.6	18.6	35.1	42.3	27.5
1988	3.1	7.8	20.0	36.8	39.6	23.3
1990	2.5	6.7	18.0	33.7	46.6	31.8
1992	2.3	6.5	17.8	33.1	45.4	30.6
<u>Rural Areas</u>						
1981	3.6	8.7	22.1	38.8	35.8	25.7
1986	3.4	8.2	20.6	36.9	40.9	26.0
1988	3.3	8.0	19.9	36.0	42.2	27.0
1990	3.0	7.3	18.6	33.3	45.6	30.6
1992	3.1	7.5	19.2	34.5	43.9	28.4

Sources: National Statistical Office.[Ref. 52]

Among the four regions, the northeast shows the greatest increase in equality (Table 4-7). Between 1986 and 1992, the shares of income for the poorest 10 to 60 percent of the northeastern population rose, whereas the shares of income for its richest 10 and 20 percent declined. The poorest 60-percent group in 1992 shared 32.8 percent of the northeast's income, making a gain of 3.6 percent since the 1986. In the meantime, the share of income for the richest 20-percent group dropped

from 51.1 percent in 1986 to 47.5 percent in 1992. In addition, the northeast's poorest 10- and 20-percent groups in 1992 earned the highest shares of income among their comparable groups in other regions.

Table 4-7 Regional Distribution of Income (percentage share)

<u>Year</u>	<u>Lowest</u> <u>10%</u>	<u>Lowest</u> <u>20%</u>	<u>Lowest</u> <u>40%</u>	<u>Lowest</u> <u>60%</u>	<u>Highest</u> <u>20%</u>	<u>Highest</u> <u>10%</u>
<u>Central</u>						
1986	2.8	6.8	17.4	32.3	45.6	30.0
1988	2.9	7.5	19.4	36.1	41.1	24.9
1990	2.3	6.2	16.5	31.7	46.9	33.0
1992	2.8	7.0	18.4	34.4	43.0	28.8
<u>South</u>						
1986	2.6	6.5	17.4	32.9	45.8	29.8
1988	3.4	8.2	20.5	37.5	41.4	25.3
1990	2.9	7.0	17.9	33.1	45.7	30.8
1992	2.4	6.4	17.2	32.9	46.0	29.3
<u>North</u>						
1986	2.4	6.1	16.0	29.8	47.4	29.6
1988	3.0	7.5	19.1	34.8	43.3	26.8
1990	2.6	6.3	16.9	30.8	48.2	33.1
1992	2.8	6.7	17.3	31.4	47.7	32.2
<u>Northeast</u>						
1986	2.7	6.2	16.0	29.2	51.1	34.6
1988	3.3	8.0	20.2	35.9	41.4	27.2
1990	3.4	8.2	20.5	35.8	44.2	29.1
1992	3.1	7.5	18.3	32.8	47.5	33.0

Source: National Statistical Office.[Ref. 53]

Interestingly, Table 4-7 gives a mixed result for the Northern region. The shares of income for the poorest 10- to 60-percent groups as well as the richest 10- and 20-percent groups all increased between 1986 and 1992. Only people in the fourth

quintile (the 60-80-percent group) lost their share of income. The central region also shows some increase in equality, though to a smaller degree than the northeast. In the south, the distribution seems to stay constant over time. The income shares for the southern population in 1986 and 1992 are almost identical. Nevertheless, the degree of inequality in all four regions is not significantly different from one region to another.

It is difficult to understand how equally, or unequally, income is distributed by simply looking at the numbers presented in Tables 4-6 and 4-7. For a better understanding, data from the tables have been converted into graphs and illustrated in Figures 4-1 to 4-8. Notice that the equality of income among people in urban and rural areas and in all four regions increased somewhat in 1988, then declined afterward. The country's income equality, however, did not show any improvement in 1988. In fact, between 1986 and 1992 it moved toward greater inequality, largely because of the income pattern in BMR. Since the income level in BMR is much higher than in urban and rural areas, any improvement in equality occurring outside BMR is offset by BMR's income pattern. And as long as the income inequality in BMR continues to increase, the inequality for the country as a whole will also increase.

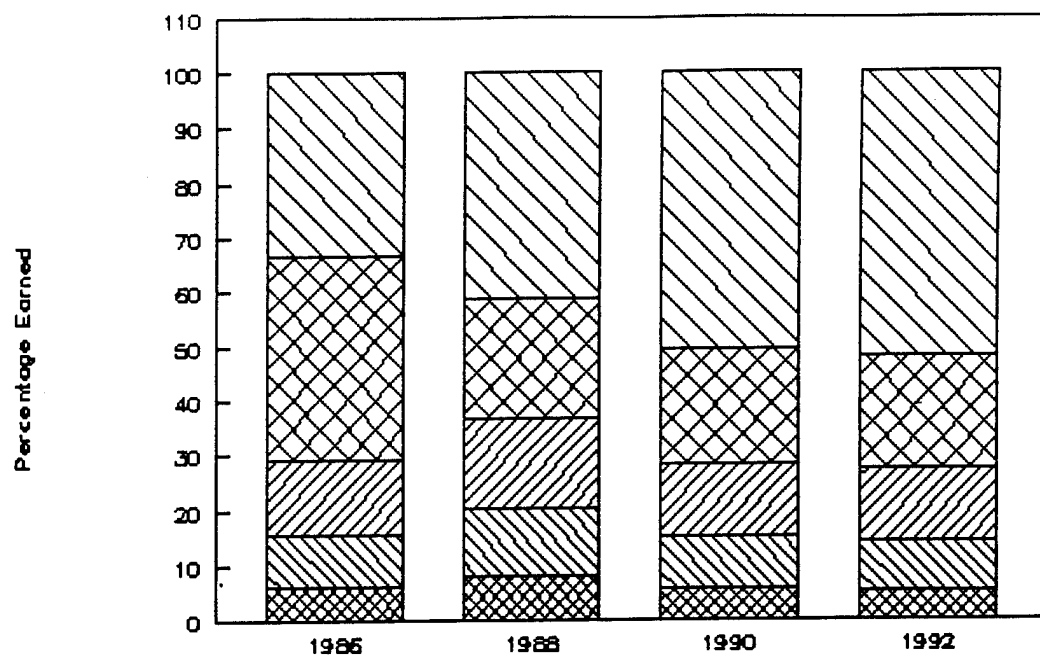


Figure 4-1 Thailand's Income Distribution

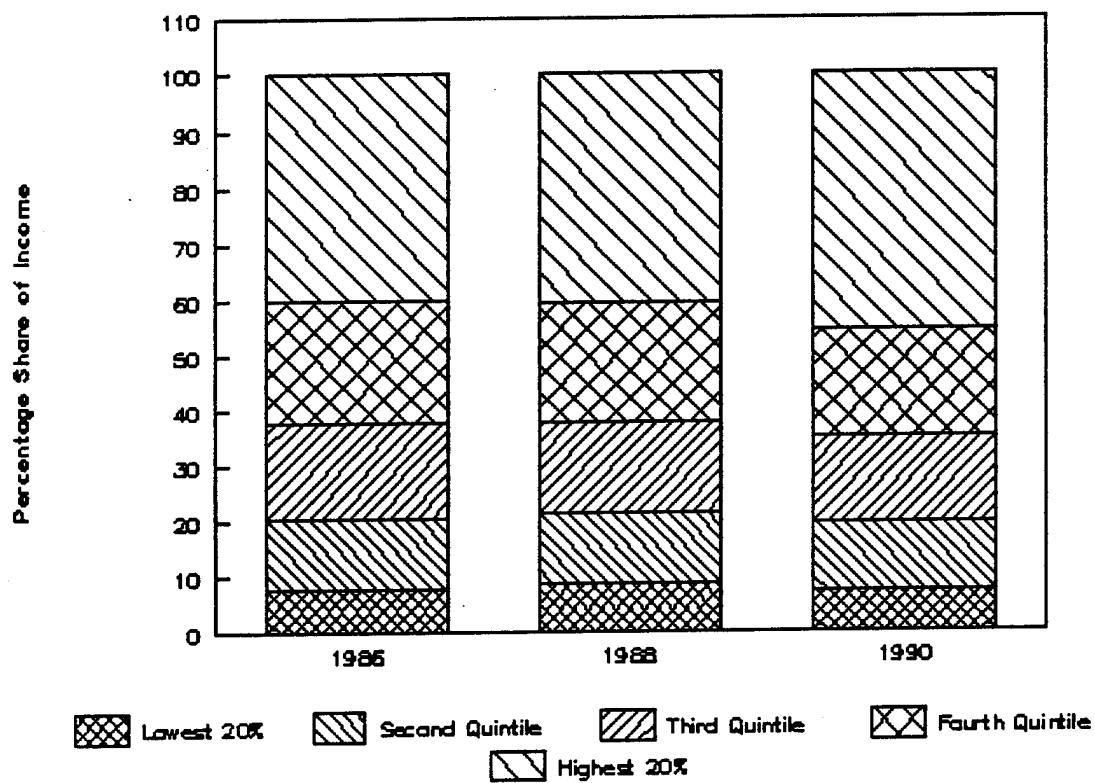


Figure 4-2 Income Distribution in BMR

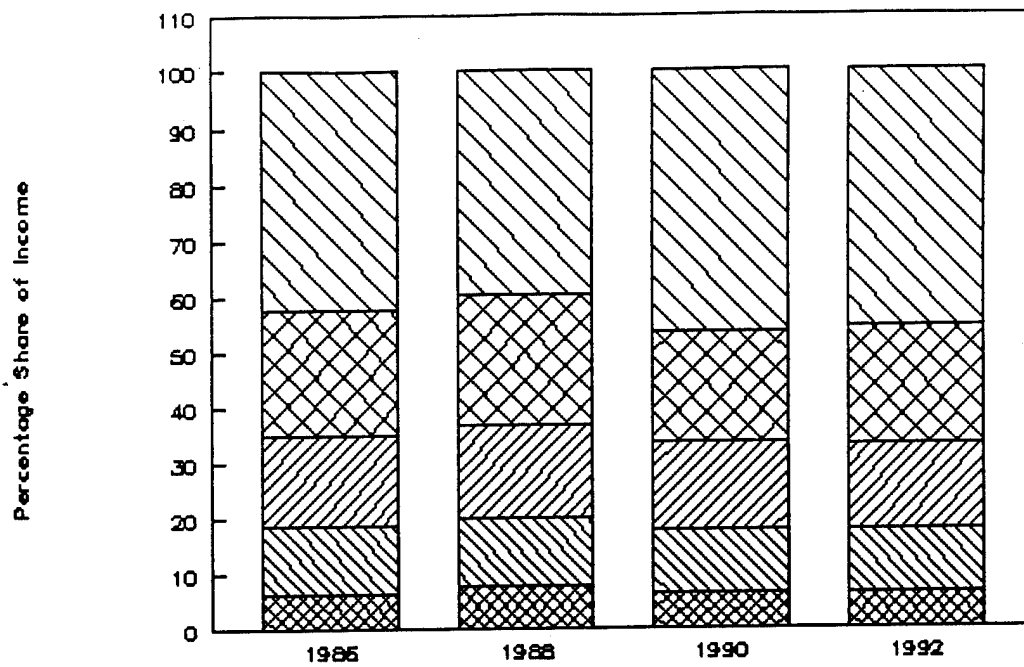


Figure 4-3 Income Distribution in Urban Areas

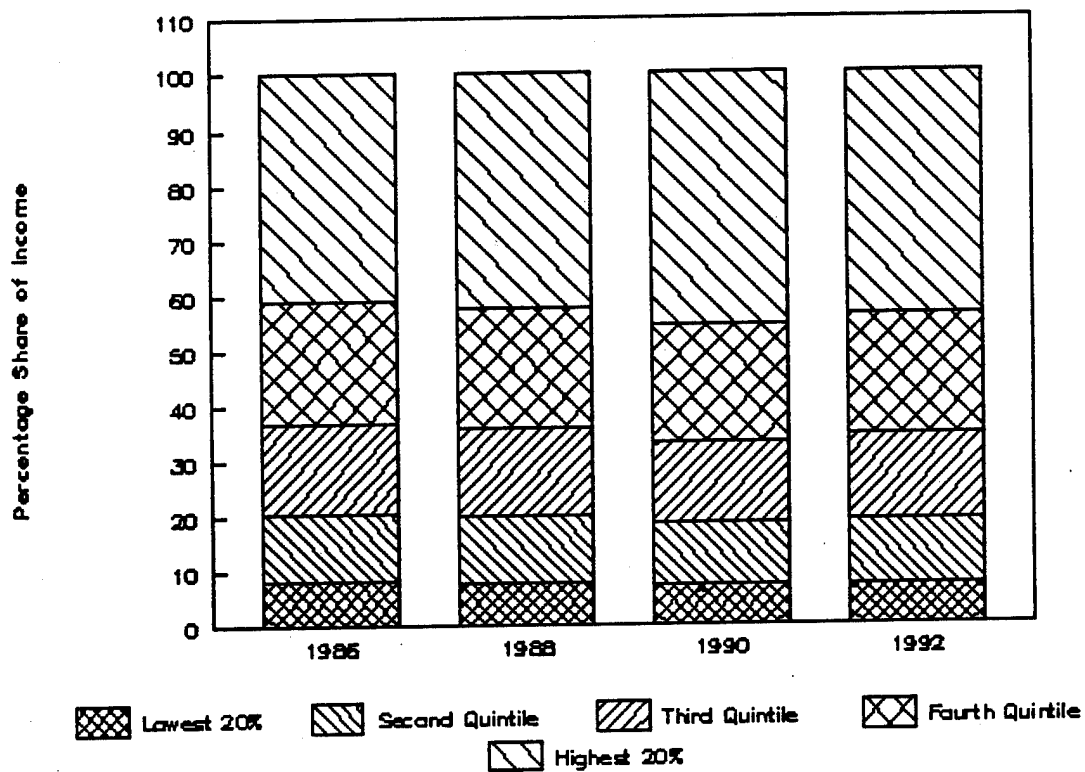


Figure 4-4 Income Distribution in Rural Areas

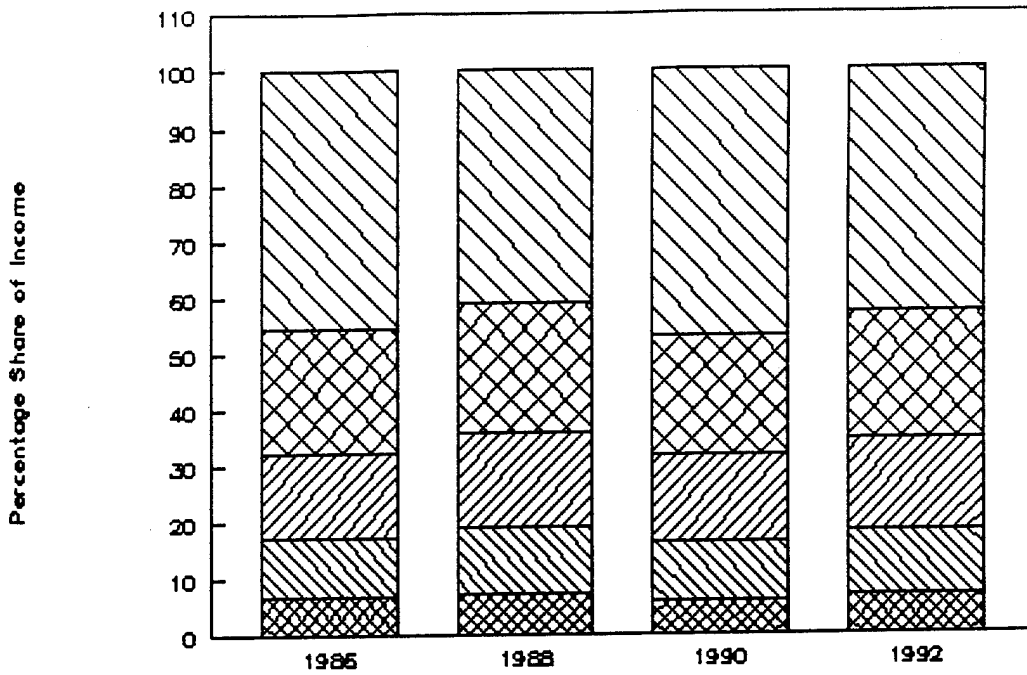


Figure 4-5 Income Distribution in the Central Region

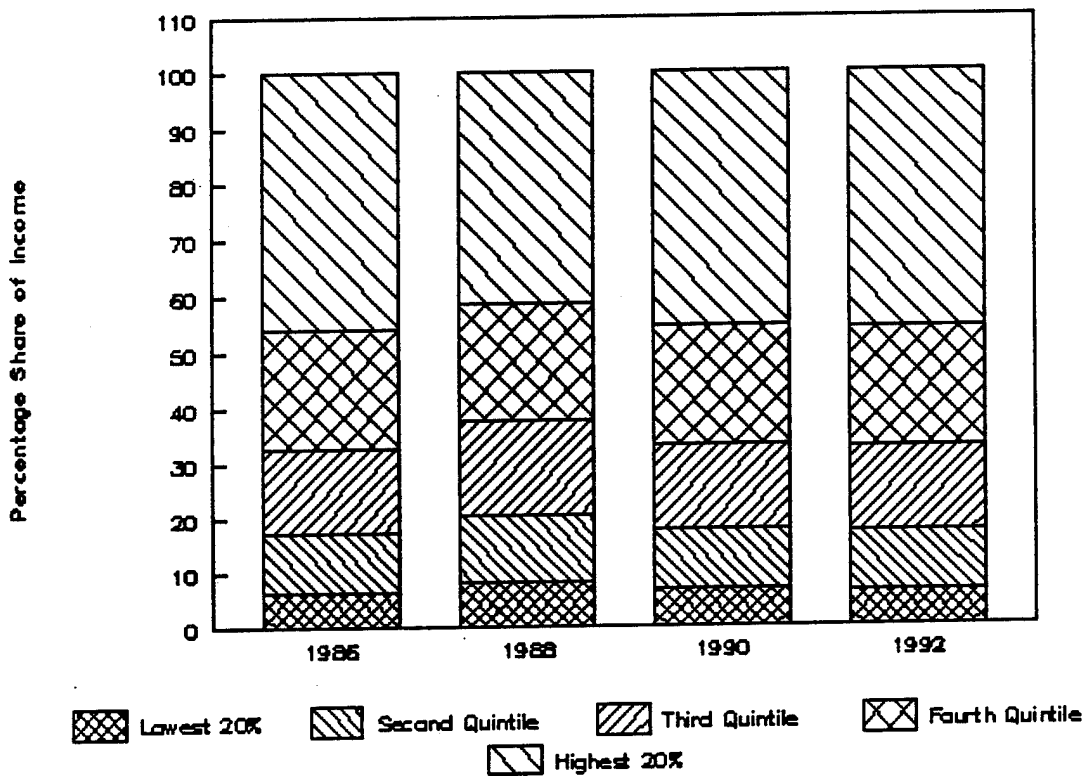


Figure 4-6 Income Distribution in the Southern Region

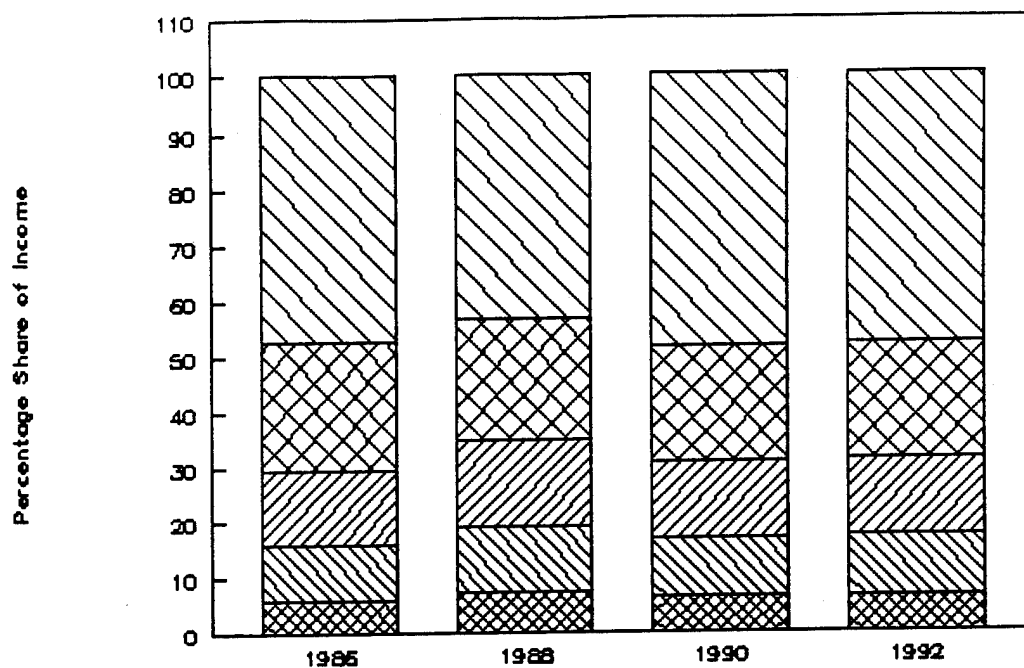


Figure 4-7 Income distribution in the Northern Region

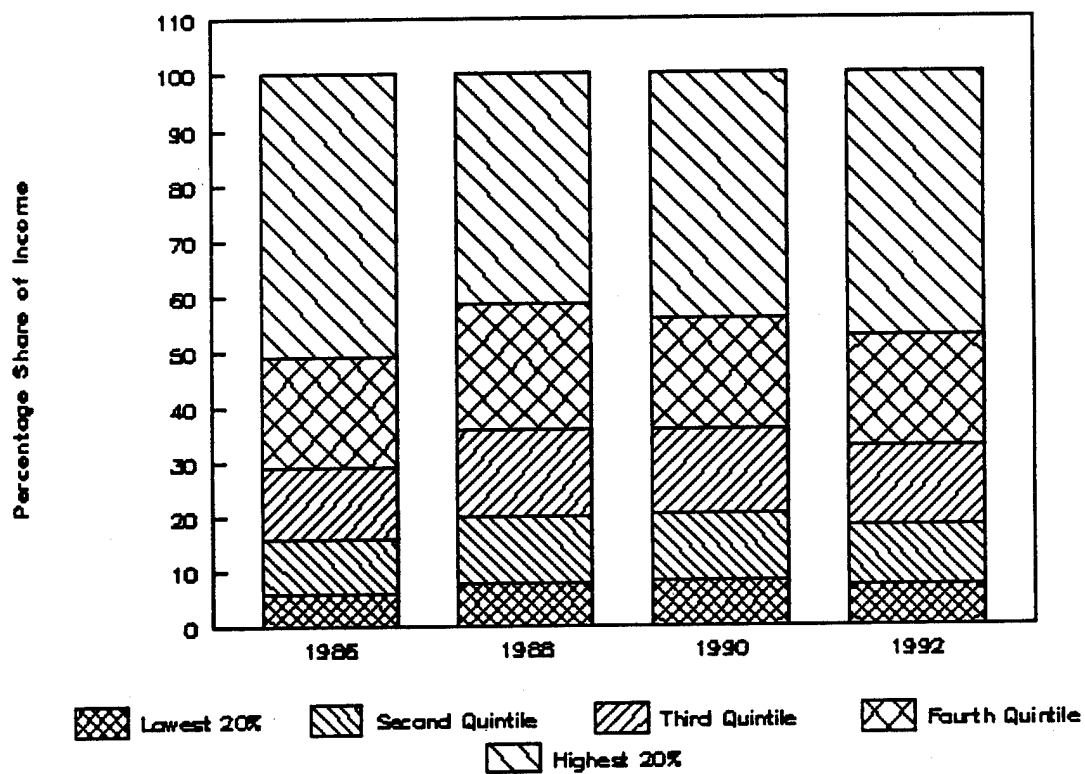


Figure 4-8 Income Distribution in the Northeastern Region

D. POVERTY REDUCTION

The results from the comparisons in sections A, B and C show widening gaps between the country's rich and poor. The urban population, particularly in BMR, has received the largest share of the fruits of development, whereas the rural population, particularly in the northeast, has fallen further behind.

Rather than matching the urban rich against rural poor, an alternative approach, the absolute-poverty approach, measures poverty reduction directly. In this approach, poverty lines are drawn to determine the portion of the population living in poverty and monitors progress toward poverty reduction. The poverty line is defined as the minimum annual per-capita income that a family needs to satisfy their basic consumption requirements. For example, the 1992 poverty lines in Thailand stood at 7,870 baht in urban areas and 5,258 baht in rural areas [Ref. 54].

Several poverty surveys have been conducted in Thailand by different academic groups and organizations since the early 1960s. Results from the surveys vary from one study to another, depending on the survey designs. However, they all show similar poverty characteristics for Thailand. Poverty is less widespread in urban areas than in rural areas and is most prevalent in the northeast. Most important of all, a substantial reduction in poverty has been observed throughout the country during the last three and a half decades. In 1962, as many as 57 percent of the Thai citizens, or 16 million out of the total population of 28 million, lived below the poverty line. Poverty in urban areas stood at 30 percent, compared with 61 and 74 percent in rural areas and the northeast, respectively. By 1981, the poverty percentage had been reduced to 23 percent. In absolute terms, the number of people living in poverty had fallen to 11 million (out of the total population of 47.7 million). Poverty levels in

the urban, rural and the northeast areas fell to 16, 26, and 36 percent, respectively [Ref. 55].

The portion of population living under the poverty line increased to about 30 percent in the first half of the 1980s, largely due to declining crop prices. But the economic boom in the second half of the decade reversed this trend. By 1988, the portion of those under the poverty line had returned to its 1981 level.[Ref. 56]

Table 4-8 Percentage of Population Living Below the Poverty Line

	<u>1986</u>	<u>1988</u>	<u>1990</u>
Poverty Line (baht): Urban	5,834	6,324	7,148
Rural	3,823	4,141	4,569
Thailand (percent)	26.3	21.2	18.0
- BMR	5.2	5.4	4.0
- Central	16.8	15.2	12.7
- North	24.1	18.9	15.6
- South	22.5	20.0	18.0
- Northeast	41.3	32.2	27.7

Source: NESDB.[Ref. 57]

Results from recent surveys conducted by the National Economic and Social Development Board are shown in Table 4-8. Poverty in all regions has continuously declined. In 1990, poverty for the whole country stood at 18 percent; 9.8 million people out of the total population of 54.5 million lived in poverty. As one may expect, BMR has the lowest poverty level, while the northeast has the highest. However, the greatest reduction in poverty has been in the northeast. The poverty level in the northeast dropped from 74 percent in 1962 to 41 percent in 1986 and 28 percent in 1990. The reasons behind this impressive improvement will be discussed in the next chapter.

The relative-inequality and absolute-poverty approaches give a contrasting view about distribution of income during the course of Thailand's economic development. Results from the relative-inequality approach might suggest economic development has hurt lower income groups and poorer regions. On the other hand, results from the absolute-poverty approach indicate just the opposite. The next chapter will look into probable causes and factors affecting the country's income distribution.

V. CAUSES OF INCOME DIFFERENCES

Economic development has raised the standard of living in Thailand and also helped millions of Thais out of poverty status. However, benefits from development have accrued disproportionately to a small group of the population, causing a widening income gap between the urban rich and rural poor. Several factors contribute to these dual results. Regional differentiation in natural resource endowment and government policies on economic and social development are two prominent factors.

This chapter will mainly focus on the effects of government policies on the distribution of income. However, to understand the impact that geographical differentiation has on regional growth patterns, the following section will briefly discuss natural resource endowment.

A. REGIONAL RESOURCE ENDOWMENT

Although Thailand is not a big country, its four regions present very distinctive geographical differentiation. The central plain has been long known as the country's rice bowl. Its rich and fertile soil provides superior conditions for rice cultivation. In addition, the relatively flat landscape and ample water from rivers originating in the mountainous north make it possible to irrigate most of the central arable land. As a result, this region has the highest percentage of irrigated cultivated area. Furthermore, it is closer to major cities and exporting markets than other regions.

The tropical warm weather and a long rainy season make the narrow southern peninsula a perfect place for rubber cultivation. The region is the world's second largest source of natural rubber after Malaysia. Fishery is another major source of revenue in the region. The Thai fishing fleet is well recognized both at home ports and in international waters.

Besides rubber and fisheries, the peninsula is rich with tin deposits. Mining has been the region's back bone industry. As previously shown in Table 3-5, the number one export earner in 1992 was tourism. This fast growing industry owes its success to beautiful beaches in the south. They have become major tourist attractions, drawing in millions of tourists to the region every year.

The northern region has two distinctive features. The upper part of the region is mountainous, supplying several of the country's main rivers. The flatter lower part slopes toward the central plain. While rice is the main cash crop in the lower area, a cooler climate gives the upper area an advantage in growing other cash crops, fruits and vegetable. Similar to the south, tourism has become increasingly important to the region. The charming northern culture and tradition, combined with the cool climate and mountainous terrain contribute to this growing industry.

The semi-arid northeast is separated from the central plain by the Korat Plateau. It stands at an average of 300 meters above the sea level and houses one-third of Thailand's population. The region is characterized by poor, "sandy," soil conditions and irregular rainfall. Sandy soil can not hold water well, causing serious water shortages even for daily personal uses during the dry season. It also responds poorly to fertilizer and gives low yields per acre. In addition to sandy soil, a sizable part of the region -approximately 16 percent- has very shallow topsoil. Bed rock and gravel in this area are found only 0.5 meters (less than two feet) from the surface. Another alarming problem concerning the soil conditions in the northeast is the spread of salty soil. Large deposits of salt rocks are scattered throughout the region. Since the sandy top soil doesn't hold water well, lowland floods normally occur after heavy rainfalls. These floods wash off large amounts of salt and leave it on the surface. This makes the area virtually

useless for cultivation.[Ref. 58]

In addition to poor soil conditions, the northeast has the lowest rainfall among the four regions. Long summer droughts are common. Because of the water shortages and limitations on topographic and water-flow characteristics, only about 15 percent of the arable land can be irrigated. As a result, only seven percent of the region's cultivated areas were irrigated in 1987.[Ref. 59]

The difference in resource endowment is reflected by cropping patterns. In the central plain, 93 percent of the irrigated area is double cropped in rice. In contrast, double cropping in rice is a rare practice in the north and northeast. While 78 percent of the irrigated area in the north grows other crops during the dry season, 54 percent of its rainfed area is left unseeded. Since water is usually inadequate in the northeast, as much as 40 percent of the region's irrigated area and 75 percent of the rainfed area are uncultivated during the dry season.[Ref. 60]

In general, the natural resource endowment has set initial conditions for growth patterns and income structures in the four regions, especially for people in the agricultural sector. Differences in endowments give a competitive advantage to some regions over others, and vice versa. The remainder of this chapter will focus on the government's efforts to counter-balance these preset conditions.

B. ECONOMIC AND SOCIAL DEVELOPMENT PLANS

One public policy affecting income distribution in Thailand is the National Economic and Social Development Plan. Although the government has a limited role in the country's economic development, the plan is still considered the most important economic document. It sets up overall economic goals, guidelines and directions for both the public and private sectors.

1. An Overview of Economic and Social Development Plans

Over the last 35 years, the Royal Thai Government has implemented seven National Economic and Social Development Plans. The Office of the National Economic and Social Development Board (NESDB), serving under the Office of the Prime Minister, prepares, recommends and revises the plans. From the first of the series to the latest, the plans have increasingly reflected the importance of industrial development in Thailand's overall economic development. Successive governments have consistently held two basic policies since the first plan. First, the private sector should be the leading force in bringing about the development; the government should take a supporting role in assisting and providing the private sector infrastructure, technological resources and human development. Second, the government should guarantee the private sector against competition from new state enterprises. [Ref. 61]

The first plan, called "the National Economic Development Plan," covered a six-year period from 1961 to 1966. Its primary objective was to raise the country's standard of living. The plan emphasized investments in infrastructure, particularly those involving hydro-electric power, transportation networks and irrigation systems [Ref. 62]. In addition, it asserted the importance of an equitable income distribution, stating that all citizens, not merely a privileged few, should benefit from development. Recognizing that an increase in productivity required infrastructure as a major input, the second plan (1967-71) continued the first. This five-year plan continued the high priority on infrastructure projects. [Ref. 63]

The growing inequity in the income distribution was perceived as a threat to internal stability from spreading insurgency, so the third plan (1972-76) widened its emphasis to accommodate socially and politically oriented objectives. Regional development programs from the first two plans were

greatly expanded, particularly in the northeast. To formally recognize the importance of social development, the word "social" was added to both the plan and planning agency. They became the National Economic and Social Development Plan and the National Economic and Social Development Board (NESDB), respectively.[Ref. 64] Thailand's economic downturn resulting from the oil crisis during the first three years of the third plan led policymakers to emphasize economic recovery in the fourth plan (1977-81). Since the insurgent activities had been increasingly intensified, rural development programs also received high attention.

The fifth plan (1982-86) addressed the issues of income distribution and social instability in a more systematic fashion. The plan established "targeted areas" for special assistance in 264 districts and subdistricts. Social services were to be greatly expanded in these areas.[Ref. 65] Another important aspect of the fifth plan was its emphasis on decentralization. Decentralization referred to expanding growth and industrial investment to provincial areas. Industrialization had been excessively concentrated in BMR. However, the real focus of the plan was on the Eastern Seaboard Project, a large government-supported industrial complex designed to become an alternative to Bangkok as an urban-industrial location. [Ref. 66]

The sixth plan (1987-91) recognized that social inequality was becoming an increasing challenge in the development process. The plan aimed at maintaining high economic growth and helping low-income populations in both urban and rural areas to gain a larger share of the benefits from development. Similar to the fifth plan, an "Urban and Specific Zone Development Program" was established to assist people in BMR and urban slums. In rural areas, the targeted zones were not limited to only areas threatened by insurgency, because this threat had subsided. Therefore, the "Rural Development Program" was opened to

nationwide eligibility. However, because of the economic boom, the plan was revised after it had been in effect for two years. The revision promoted exports through greater competitiveness in world markets. As for decentralization, the revision recommended expanding industrial investment to regional and rural areas. But unlike the fifth plan, the government did not map out any industrial complex projects. Instead, it called for the private sector to play a bigger role in the process.[Ref. 67]

After experiencing the 1987-1990 breakneck growth, policymakers have added another dimension to the seventh plan (1992-96). In addition to the two traditional objectives of maintaining economic growth and redistributing income to regional and rural areas, the plan is designed to develop human resources and to preserve environmental and natural resources. [Ref. 68] A series of measures to reduce poverty and income inequality are proposed in the plan. These measures include improving production productivity, marketing and price support programs, and decentralizing industrial activities to provincial areas. In addition, human resources will be strengthened through education [Ref. 69]. Compulsory schooling will be increased from six to nine years. The government will also encourage the private sector to play a bigger role in providing higher education.

2. Causes of the Mixed Results

The economic and social development plans have produced mixed results in redistributing income to regional and rural areas. Several reasons contribute to this conclusion. The primary objective of all the economic and social development plans is to raise the country's standard of living. To achieve this objective, the plans pursue two broad goals: attaining high economic growth, and redistributing wealth to regional and rural areas. Thailand's economic performance over the past 30 years indicates that the first goal has been met, largely through industrial development financed by the private sector. Since

private financial institutions are largely independent of government control, investment patterns which normally follow market-determined patterns do not necessarily follow a pattern that matches government income distribution planning [Ref. 70]. Thus, industrial investment and growth are heavily concentrated in a few major cities, particularly Bangkok. Economic concentration becomes a major challenge to redistributing wealth to provincial areas.

In addition, some plans fall short of either establishing strong policies or allocating government expenditures toward an equitable income distribution. The NESDB does not control the budget. Initiatives, recommendations and programs proposed by the agency in the plans are not always transferred into ministerial operational plans. This link in the implementation process is further weakened by the country's political instability. No elected government has ever completed a four-year term since the country adopted a constitutional monarchy in 1932. Either coups or dissolutions of parliament bring the government to an end. Consequently, the administrations that set out initiatives and programs in drafting the plans do not generally implement them.

Moreover, no single political party has ever gained a majority in parliament since the first general elections were held in 1933. Coalition governments, involving as many as six parties, are inevitable. Based on the ratio between ministerial posts and the total members of parliament in the coalition parties, ministerial quotas are assigned to the parties. Government policy statements are usually viewed as prepared by the coalition's leading party. In addition, capturing more seats in the next elections is the major concern of all parties. Because of these perspectives, there is no real sense of unity among the coalition parties. Each coalition party usually runs ministries under its own policies and quite often discredits other parties. This action is further fueled by public opinion

which normally gives credit to or blames a particular party, not the government as a whole, for accomplishing or failing to run a ministry.

The country's political instability, initial state of development and impacts from the global economy hindered long-term planning. Prior to the 1990s, the government focused on short-term problems to cope with economic pressure, some from external factors. For example, the swift increase in oil prices caused the government to redirect its efforts during the third and fourth plans, emphasizing controlling inflation and putting the country's economy back on the high growth track. Economic concentration was not recognized as a national policy issue until the fifth plan. Although this plan emphasized expanding industrial activities beyond BMR, the government limited its attention almost exclusively to the Eastern Seaboard Project. Furthermore, most of the government's efforts had to be redirected to address macroeconomic problems caused by the global recession and second oil shock. Besides the Eastern Seaboard Project, decentralization did not make much progress in the fifth plan. The 1987-90 economic boom and the NIC status highlighted the Thai economy and, at the same time, took away most of the decentralization efforts. The sixth plan focused priority on maintaining high economic growth. By the end of the 1980s, the shortfalls of infrastructure and education had become significant drags on the economy, making it difficult to sustain long-term growth and expand the industrial base to provincial areas.

Based on the relative-inequality approach, the growing income gap between the urban rich and rural poor implies that the government has failed to accomplish the plans' second goal: redistributing wealth to regional and rural areas. However, from the early 1960s to the mid 1980s insurgency in rural areas was the major national security issue. Concerning redistribution of wealth, the government's real intention was not to narrow the

income gap, but rather to reduce the country's poverty. To battle the insurgency, the government committed more energy and effort to rural development programs, aiming to improve the standard of living in rural areas. Since insurgent activities were localized and largely limited to remote areas, these policies did not have large impact on industrial development in BMR and other urban areas. Thus, two different kinds of development having two different goals have been simultaneously carried out for almost 30 years. Development in urban areas was led by the private sector; development in rural areas was led by the public sector.

If results from private and public development are compared against each other as in the relative-inequality approach, a widening income gap between urban and rural residents should not be unexpected. This is because these programs have different objectives. On the other hand, considering the absolute-poverty approach, the government has actually achieved both goals of the plans. It has been able to maintain high economic growth and significantly reduce poverty in the country.

The threat from the insurgency has faded from the national arena since the mid 1980s. Rural development programs have prepared provincial areas for more advanced development. As the Thai economy matures, the significance of short-term problems has been overshadowed by the need for long-term planning. This is reflected in the seventh plan (1992-96). Policymakers have broadened the goal of redistributing wealth to regional and rural areas. The goal now aims to reduce the country's poverty and to narrow the income gap between the urban rich and rural poor.

C. REDISTRIBUTION OF INCOME

The seventh plan has three major objectives: maintaining economic growth; redistributing income to regional and rural areas; and developing human resources and preserving

environmental and natural resources. Within the context of this thesis, only the redistribution of income and human resource development are relevant. In this section, two approaches to income redistribution will be discussed: industrial decentralization schemes and rural development programs. Human resource development will be discussed in the following section.

1. Industrial Decentralization Schemes

A deep-rooted cause to the growing inequality in Thailand is economic concentration. Bangkok alone accounts for almost half of the country's gross domestic product. Industrial activities, financial institutions and exporting markets have been heavily concentrated within BMR. Several factors contribute to this phenomena. These include transportation costs, volume of production, access to public utilities, labor effectiveness and distance from government offices, all of which favor Bangkok and its vicinity [Ref. 71].

Successive Thai governments have tried to distribute the country's wealth by encouraging industry to move to provincial areas. The Board of Investment (BOI) is the major instrument for implementing this policy. Established in 1954, BOI is the principal government agency that provides investment incentives in Thailand. Between 1960 and the end of June 1989, the board granted promotional certificates to 5,045 projects, involving a total investment of 802 billion baht and 1,303,249 new jobs [Ref. 72]. However, most of the investment was concentrated in only some major cities, particularly Bangkok.

Since 1989, BOI has classified the country into three investment zones: Zone I includes Bangkok and its five adjoining provinces; Zone II includes 10 other prominent provinces in the central region; and Zone III includes the rest of the country. Projects in Zone I receive the smallest tax benefits; projects in Zone III receive the highest.[Ref. 73] In an attempt to accelerate decentralization, beginning in April 1993, the board offered additional import-duty exemption and extended tax

holidays to investors who are willing to locate factories outside Zone I. As a result, the board received 1,121 applications during the last nine months of 1993, up from 444 projects in 1992. Applications in Zone III leaped from 170 to 801 projects. The board granted promotional privileges to 523 applications for projects in Zone III in 1993, compared with 166 projects in 1992. In contrast, it approved 193 projects in Zone I and 136 projects in Zone II in 1993.[Ref. 74]

The slow progress in diverting investment away from Bangkok and its vicinity results in part from the lack of infrastructure in provincial areas. Inadequacies in the telephone network, transportation system and power generation grid increase the operating costs of factories located outside Bangkok. These additional costs can outweigh tax incentives obtained from the promotional privileges. Although the government has continuously invested in infrastructure projects, most of these projects provide the basic infrastructure needed to increase agricultural productivity. Infrastructure to support the country's long-term industrial growth has been overlooked and underdeveloped. For example, in 1990 Thailand had 1,192,808 telephone lines, representing only 2.2 lines per 100 population. Bangkok alone accounted for almost 70 percent of these.[Ref. 75]

The government has been focusing on redistributing wealth to provincial areas, in part by expanding infrastructure networks. Several projects strengthening transportation links between provincial areas and ports on the Gulf of Thailand are being implemented. But the most challenging task for the government is to expose its state utility and transport enterprises to free market competition. Realizing that private capital and professional management were essential for Thailand to maintain economic growth, the concept of privatization was introduced to the state enterprises in the early 1980s. However, strong resistance from state enterprise unions and other vested interests stalled the move for several years. To avoid political

confrontation, the government's solution has been to gradually privatize activities that require large capital or sophisticated technology through franchises, concessionary arrangements and new shareholding structures [Ref. 76]. Out of 50 some state enterprises, the privatization battle has focused on four: the Telephone Organization of Thailand (TOT), the Communication Authority of Thailand (CAT), the Electricity Generating Authority of Thailand, and Thai Airways International. Thus far, TOT and CAT have been fairly successful in privatizing and expanding their services to meet aggressive targets set by NESDB. Although they will not likely to meet the target of 10 telephone lines per 100 people by the end of the seventh plan, the line-penetration ratio has substantially increased from the 2.2-per-100 ratio in 1990.[Ref. 77]

The regionalized promotional policy and expanding infrastructure networks will help decentralize economic concentration. However, the increase in projects requested and approved in Zone III alone cannot measure the success of the new policies. Among 969 projects granted promotional privileges by BOI between 1992 and the first quarter of 1994, only 386 applicants have come forward to get promotional certificates. Among these, only 200 projects are underway. Furthermore, most of the projects are concentrated in a few major provinces that already have strong industrial bases and good infrastructure services. Out of 523 projects approved in Zone III in 1993, only 112 projects are located in the northeast. If all these projects become operational, they will create about 30,000 new jobs for the region's 10-million labor force. Furthermore, more than half of these projects are located in Nakorn Ratchasima, the region's most industrialized province [Ref. 78]. Thus, the growing inequality in Thailand is not likely to fade away in the near future.

2. Rural Development Programs

There is no doubt that rural development programs have reduced poverty levels in Thailand significantly. Although the programs were insufficient and ineffective during the early stages, they were catalyzed by internal security threat. The August 1965 gunfire in northeast marked the beginning of a long and bitter armed struggle in Thailand. Insurgent activities were most wide spread in the northeast, north and south, respectively. This led to an increase in security spending and the regional planning to improve living conditions in rural areas. The government did not gain the upper hand over the situation until the late 1970s when it shifted its emphasis from armed suppression to civic action. "...[T]he Royal Thai Government recognized the village-level problems that the insurgency could have turned to its purposes, gradually blanketed the insurgent areas with development programs and benefits, and restaffed and retrained the cadre of district officers." [Ref. 79] By 1985, the armed struggle was virtually ended.

The government, however, has continued supporting rural development programs. These programs have helped restore and maintain internal security and build infrastructure that provides the private marketing system low-cost access to farmers. As presented in Chapter IV, the northeast had the lowest average household income in the country, but showed the greatest improvement between 1986 and 1992. This can be attributed to the "Isaan Khiew," or Green Northeast Project. The five-year project was launched in March 1987 to provide adequate water and irrigation services and reduce income inequality in the region. The Royal Thai Army coordinated the NESDB, academic institutions and business community in this project [Ref. 80].

Although domestic security has been restored and poverty levels in rural areas have been substantially reduced, the

government still strongly supports rural development. This is reflected through expenditures allocated to regional and rural areas in the current economic and social development plan. In 1992, central agencies (ministries and their division-level units) received a total budget of 269 billion baht. By 1995, their budgets have fallen to 225 billion baht. During the same period, the regional agency budgets (provinces, districts, subdistricts, communes and villages) have increased from 193 billion baht to 490 billion baht [Ref. 81]. In addition, the government encourages the private sector to increase its role in rural development. Several organizations and firms have located small factories in rural villages to produce low-technology consumer goods. With a strong emphasis from the public sector and more participation from the private sector, the country's poverty level should continue to decline.

D. HUMAN RESOURCE DEVELOPMENT

The education system in Thailand can be divided into three broad levels: primary, secondary, and tertiary. All levels of education are provided mainly by the public sector. Six years of primary-level schooling are compulsory and over 90 percent of primary students attend public schools. Secondary education is divided into lower and upper divisions, each consisting of three years. In 1985, approximately 88 percent of secondary students were enrolled in public schools. The role of private education at this level has been declining over time; average standards are lower in private schools than in public schools. [Ref. 82]

Vocational education has been extensively developed since the early 1980s. The secondary curriculum has been shifting from traditional university preparation to more applied labor market skills. Vocational training is now incorporated into the primary and secondary curriculum. In addition, vocational and technical programs are offered in the upper division of the secondary

level and in post-secondary education.

To support the country's economic growth, tertiary or higher education has expanded greatly in the 1990s. The number of public "closed" colleges and universities that provide education at undergraduate and graduate levels has increased from 12 institutions in 1985 to over 60 institutions today. However, these institutions can accommodate only a small percentage of the students who want to continue at this level. Therefore, most tertiary students are enrolled in "open" universities. The country's two open universities account for over 80 percent of students enrolled at institutions of higher education.[Ref. 83]

Thailand has invested substantially in education. This is reflected in expenditures on education. This has been one of the highest areas of public spending. The country's adult literacy rate -at about 90 percent- is one of the highest in Southeast Asia. The educational system in Thailand is not inadequate, but it is inequitable. In the early 1990s, only 10-15 percent of the children in provincial areas continued in the secondary level. This compares with over 80 percent in Bangkok. In another estimate, 14 percent of children from farm families attended secondary schools; this compares with 96 percent from middle and upper class families. Unequal access to the educational system is another cause of the growing income gap between the urban rich and rural poor. Educational disparity is leading to greater income inequality because those with only a primary education are increasingly excluded from the higher-paying jobs in the manufacturing and service sectors.[Ref. 84]

The widening income gap and a severe shortage of skilled workers during the rapid growth in the second half of the 1980s sparked policymakers to revise the country's education policies. The seventh economic and social development plan extends compulsory schooling from six to nine years. The government has committed to attaining this goal. Between 1993 and 1995,

expenditures on education accounted for approximately 19 percent of the total budget and was the highest area of public spending. For fiscal year 1996, expenditures on education will increase to 20.4 percent of the total budget, comfortably leading the second- and third-ranked expenditures (social services and national security) which account for 13.4 percent and 13.0 percent, respectively [Ref. 85]. The percentage of students who continued in the lower secondary level reached 75 percent in 1993 and 90 percent in 1994 [Ref. 86]. With this impressive record, the government plans to officially announce nine-year compulsory schooling in 1996 [Ref. 87].

In March 1995, the government approved plans to encourage private investment in schools, universities and worker training. In these schemes, concessionary financing will be provided to investors who want to build secondary schools, colleges and universities outside BMR. In addition, these investors are eligible for low-cost land and tax breaks. To boost the skills of people already in the labor force, tax breaks and tax exemptions will be provided to companies that start in-house training programs or send their employees for further training in educational institutions.

The highlight of the new education and training schemes is a loan program for poor students. This will be the country's first student loan program. The loan covers tuition and fees, books and living expenses for up to seven years -three years of upper secondary school and four years of higher education. In return, students repay the principal and 1-percent interest over a period of 15 years, beginning two years after completing their studies.[Ref. 88]

As industrial activities expand to provincial areas, more higher-paying jobs will become available to rural residents. Farm households will now have higher expected gains from extra schooling. Three to six additional years of secondary school are no longer seen as doing little to improve children's

productivity as farmers. Although it is too soon to expect results from education, at least serious attempts are being implemented to address the long-term growing income inequality between the urban rich and rural poor.

VI. SUMMARY AND RECOMMENDATION

A. SUMMARY OF THE STUDY

Results of the study are summarized as followed:

1. By using the relative-inequality approach, income patterns in most developing countries during the course of economic development follow the inverted U-shaped hypothesis suggested by Kuznets in 1954. The hypothesis implies that as per-capita income in a developing country rises, its inequality may initially rise, reach a maximum, remain stable at an intermediate level of income, and then decline as income reaches levels similar to those in developed countries. By contrast, the absolute-poverty approach gives a different perspective to the distribution of income. Results from the absolute-poverty approach indicate a substantial reduction in poverty level during the early stage of development.

2. Over the past 35 years, income structures and poverty levels in Thailand have generally followed the same patterns as most developing countries. Taking the relative-inequality approach, the study shows a growing income inequality between different groups of the population. In Thailand, this was evident between agricultural and industrial sectors, urban and rural areas and among different regions. Residents in the Bangkok Metropolitan Region have received the largest benefit from development, where as residents in the northeast have received the smallest share. As a result, BMR's residents have been pulling further ahead of the rest of the country; the northeastern region has been falling further behind. However, the poverty levels in Thailand, whether expressed as a percent of the total population or in absolute terms, have been significantly reduced. Interestingly, the greatest reduction in poverty has occurred in the northeast.

3. Different results obtained from the two approaches are explained by two main factors: natural resource endowments and

the effects of government policies on income distribution. Growth patterns and income structures in each region, especially in the agricultural sector, are primarily determined by natural resource endowments. These regional and sectoral endowments are either strengthened or weakened by government policies.

The National Economic and Social Development Plan establishes overall economic goals, guidelines and directions for both the public and private sectors. All seven economic and social development plans share the common objective of raising Thailand's standard of living. Two broad goals are set to achieve this objective. One is to attain high economic growth, the other is to redistribute wealth to regional and rural areas. The first goal has been carried out by the private sector mainly through industrial development; the second goal has been carried out by the public sector mainly through rural development programs.

The market-determined investment patterns in the private sector, combined with the country's political instability, the lack of infrastructure networks in provincial areas and education shortfalls in rural areas have led to a high economic concentration in a few major cities, particularly Bangkok. Thailand's economy has been performing exceptionally well. However, a relatively large share of national output is generated within these industrial cities. Thus, the goal of high economic growth has been achieved, but with a growing income gap between urban and rural residents.

In the public sector, the country's political instability and constant pressure from the global economy and oil crises limited government objectives during the first six plans. They were unable to map out a long-term plan to sustain growth and to expand the industrial base to provincial areas. Because of the threat from the insurgency, the government was determined to reduce poverty rather than narrowing the income gap. Rural development programs were the key to combating the insurgency

and rural poverty. Although the threat from the insurgency has faded since the mid 1980s, the government continues supporting these programs. These programs have pushed millions of the rural population out of poverty. At the same time, they provide these rural areas with basic needs and services to stand ready for future industrial development. In this sense, the government has also accomplished the goal of distributing wealth to regional and rural areas.

As Thailand's economy has matured and the country has ensured internal security, the government is now interpreting the term "redistributing wealth" as both reducing poverty and narrowing the income gap. While rural development programs remain the key instrument for fighting poverty, two strategies are being implemented to narrow the income gap. One is to expand industrial activities to provincial areas and the other is to upgrade the educational system by providing rural children better accessibility to higher education.

B. RECOMMENDATION

It is too soon to predict the outcome from the government's latest efforts to obtain a more equitable society. If the decentralization schemes work well and the industrial base expand to provincial areas, better-paying jobs will be available for rural residents in the industrial and service sectors. With better education and skills, these rural workers should be able to effectively transfer from agriculture to other sectors. However, income inequality might remain the top national policy issue.

Thailand is quite different from the four Asian NICs. With the exception of South Korea, these countries have relatively small populations and limited natural resources. As they transform to industrial societies, only small portions of their population remain in the agricultural sector. For Thailand, even if the transformation from agrarian to industrial society goes

smoothly, the country's agricultural sector will remain relatively large. Thailand has rich natural resources and a large population. The increase in Thailand's agricultural output has been largely secured through increasing the cultivated area. A much lower growth in the output has been observed in the past several years because uncultivated land is nearly depleted. The government relies mainly on diversification schemes to increase productivity in the agricultural sector. However, it will be difficult for the agricultural sector to match the growth in the industrial and service sectors through diversification schemes alone. Yields per acre of all major cash crops are still relatively low. Besides the diversification schemes, farmers need a technology breakthrough to increase their productivity. Research programs conducted by several government agencies have not increased agricultural yields. While industrialization is being promoted in provincial areas, the government should also direct more energy and resources to research and development in agriculture.

Thailand's economic development has generally followed the pattern described by the inverted U-shape hypothesis. It will be interesting for future studies to see if the current government's efforts will help stabilize the income distribution as predicted by Kuznets over 50 years ago.

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